

Converting the Model to Meta Model for the Knowledge Base of Malaysia's Malay Intangible Cultural Heritage

Wang wen

University of Malaysia, Department of Arts, China
Corresponding Autor: wangwen@gmail.com

To Cite this Article

Wang wen, "Converting the Model to Meta Model for the Knowledge Base of Malaysia's Malay Intangible Cultural Heritage", *Journal of Engineering Technology and Sciences*, Vol. 02, Issue 01, January 2025, pp: 01-04

Abstract: Because the nation's intangible cultural heritage is a component of its identity, it is a national treasure. Globalization is also the cause of the younger generation's decreased interest in cultural heritage courses due to the quick advancement of technology. Without taking immediate steps to protect it, it will put the nation's intangible cultural heritage in danger of disappearing. The researcher presents a model of these elements that support the preservation of intangible cultural heritage in this research work. It will serve as a foundation, standard, and guide for converting an intangible cultural heritage repository (by converting the model to a meta model). This conclusion serves as the primary contribution to this study and is extremely valuable and important for intangible stories and archiving.

Keywords: Repository, Metamodel, Intangible Culture Heritage, Guidelines and Archiving

I. Introduction

In this instance, Malaysia is a growing nation where a variety of elements will impact Malay culture. globalization, modernization, urbanization, increased employment possibilities, the abundance of contemporary mass media, and government development plans pose the biggest threat to the diversity of human culture. Local, regional, and even national traditions were thought to have been destroyed or devalued by many cultural observers worldwide. The question of whether the next generation would continue the valuable traditions, practices, and forms of knowledge that have survived in various societies has been raised by global mass culture; young people prefer to learn new technologies like ICT and engineering rather than continuing with cultural activities that guarantee wages and financial success. According to the UNESCO Convention of 2003, intangible cultural heritage is in fact endangered. The main challenge is how to archive and maintain things that cannot be seen and, thus, cannot be handled. Intangible heritage is a form of tacit knowledge. Using ICT, numerous researchers have been studying intangible heritage.

This is precisely what Dyson claims when he says that information and communication technologies (ICTs) have globalized human knowledge and that it is conceivable to make the entirety of human memory available to everyone and to replicate it precisely wherever. Ontology Based Knowledge Modelling was introduced by Guoxin Tan and Danis Pitzalis as a way to use ICT to document intangible heritage. Based on the idea of the CIDOC Conceptual Reference Model, we conducted a demographic search of intangible heritage using the ontology technique. User-defined metadata based on factual information (ontology technique) and heterogeneous databases are utilized to mediate one another. Although this method is highly effective and precise in its search, it can only be used with a certain kind of intangible asset (such as traditional music or costumes) for archiving. X3D and Another method for preserving intangible heritage is the use of virtual reality techniques. This method is used for the development of China's Digital Museum of Intangible Heritage. Researchers also altered the intangible heritage's spatial context, which is one of its actors. The researcher must simulate the palace setting, the audience, the music, and the king's position during the dance performance in order to mimic the Palace Dance. This method has the benefit of allowing people to learn how to dance step-by-step through performances. Unfortunately, only a few subdomains of intangible heritage—oral traditions and expressions, social practice rituals and festive events, and the performing arts—can use this technique.

Knowledge of nature and craftsmanship is a human skill that cannot be precisely modelled. In Japan, their researcher used robotics to conduct dance training utilizing the Multimodal Method. An image display is added to a mobile robotic, active vibro-device as part of a multimodal information presentation system for basic traditional dance training. The traditional dance is thought to be self-learning, and a mentor is not required to teach the steps of the traditional dances step-by-step. This approach, in my opinion, only worked for a certain style of dance and wasn't appropriate for other kinds of music. Second, because the algorithm is solely based on one kind of music, it is unable

to react to different kinds of music. It is necessary to re-program the gadget to teach different kinds of dances [11]. The second is Chu Dance of China, which Cheng Yang oversees using 3D motion pictures. This method uses 3DMotion Picture software to create a model of a traditional dancer wearing a traditional costume. By employing a rule-based behavior engine, the model's motion is constructed upon it utilizing a reactive behavioral engine [10]. simply the performing arts can benefit much from this technique; other intangible heritage domains cannot, as it is intended simply for display and has no transmission value. Although the Ministry's Culture Department has been around since 1969 under different ministries, Malaysia is still relatively new to the aforementioned preservation techniques for intangible cultural heritage [13]. Since ICT technology is involved, no projects for the archiving of intangible heritage have been initiated.

II. Research Method

The research approach for this study is broken down into four phases: development, qualitative analysis, construction model, and document analysis. Reference books, journals, including online journals, white papers and published or unpublished papers, legal documents, policies, guidelines, or legislation documents pertaining to cultural heritage, proceedings, such as sound and video recordings, CD documentation, etc. These are all input documents for this phase's analysis. We were able to read a few activities throughout this phase. Additionally, it is document analysis, where we collect data on cultural heritage, global scientific research, studies, and development. Analysis of Documents Reference books, journals, including online journals, published and unpublished studies, white papers, and legal, policy, guidelines, or laws are examples of input from this phase. Information about cultural heritage, associated studies, and scientific research from throughout the globe is gathered through document analysis. We are able to determine the primary task at this point, which is to determine the elements that go into preserving the Malay Intangible Cultural Heritage. Nonetheless, this stage yielded the identification of these six elements. These include the following: governance, legal and policy, belief, culture, geography, and human factors. The conceptual model of Malay Intangible Cultural Heritage is based on contributing variables identified in the Intangible Cultural Heritage Archive.

This model is known as IR-BUDAYA because it is a model repository of the intangible culture of the Malay language. Data collecting should take place here. One more element was gathered through analysis with NVivo software. Typically, by a non-profit or non-governmental organization (NGO) Champion Factor. Seven factors were found through analysis in this study and categorized into two groups. They are both intrinsic and extrinsic factors. [14] Seems to be outside or signify outside or exterior. Therefore, outside influences in this setting highlight elements that are not directly associated with the culture. A combination of these criteria is necessary for the archiving of intangible cultural resources [3, 15–19]. Five external variables have been identified as having an impact on Malaysia's preservation of Malay intangible cultural heritage. Human, governance, geographic, legal or policy, and champion factors are all important considerations. factors that are natural, internal, or intrinsic [14]. Two of the six criteria that have been found fall under this group. [20] The two are the culture element and the belief factor. The third reason is that belief is frequently referred to or viewed as a culture, which depends on the culture in addition to variations in the domains of religious practice, social practice, and celebratory events like ritual ceremonies, initiation rites, or funerals [21–25]. Simply put, the belief in the Malay scenario was a determining element in whether or not it could be archived.

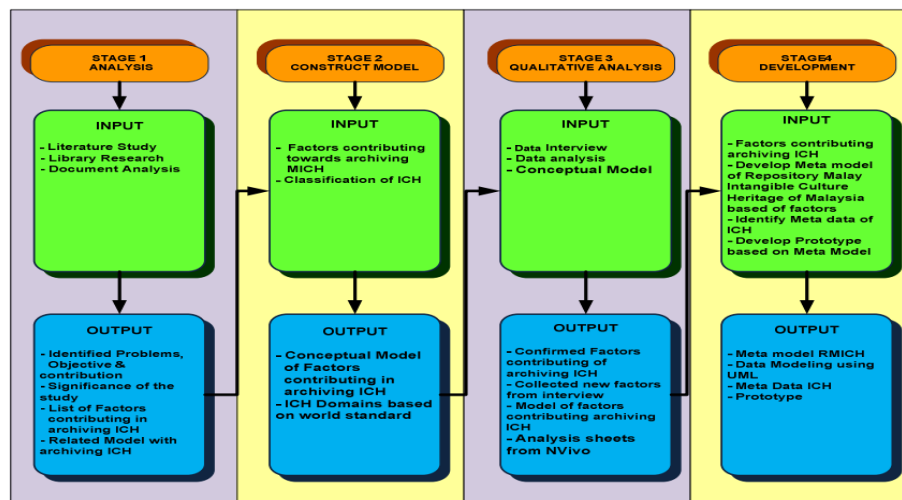


Fig 1: China's heritage methodology model

III. Results and Analysis

IR-BUDAYA was constructed using seven elements from the investigation. Above all, as seen in Diagram 2.0, the table displays and converts the factors into a model. After then, it will change from the IR-BUDAYA model to the IR-BUDAYA meta model. There aren't many steps necessary to establish a meta model before using it as a guide to build a repository. The following actions were taken:

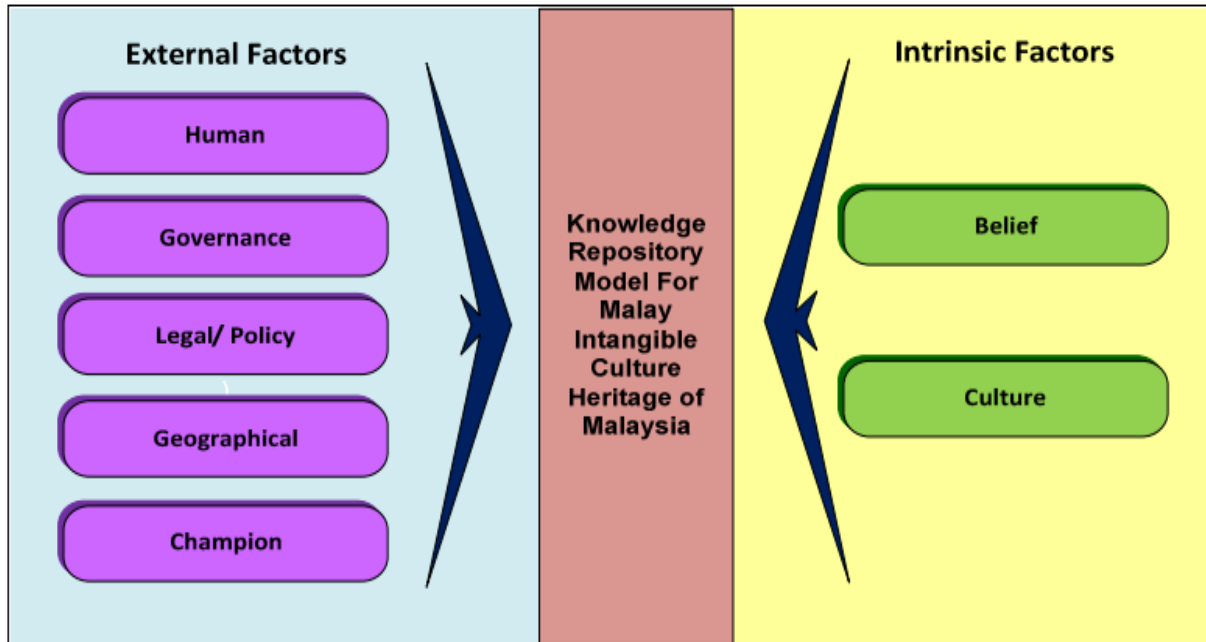


Fig 2: IR-BUDAYA Model

List every factor-related activity from the above model. Intangible culture archiving is something that both Champion and Governance promote. Two distinct actions are supported by two distinct factors. The meta model was diminished when one of the actives was removed. As a result, Champion and Governance are performing the same "support" tasks, which include preserving Malay intangible cultural assets. Determine the many kinds of factors on the meta model, often referred to as the notion. Human factors can be shown to be related to other elements, such as cultural or belief factors. The following activities are included in this concept: Human learning Beliefs have no objection to culture, and culture itself has no objection. Experts in cultures and beliefs must validate these actions because humans will be referring to Concepts related to culture and belief are "sharing the Expert from Human factor." Community, Entrepreneur for traditional craftsmanship, Patient for healing practices, Customer for traditional craftsmanship, and Root for specific culture are further concepts related to the human aspect. Additionally, provide the parameters for every action and every notion for every factor. For example, the idea Patient and the activity Cure are equal to patient cure. There are parameters pertaining to notions and intangible culture, such as the name and specifics of the illness and a boolean indicating whether or not the patient wants to be treated using traditional methods.

IV. Conclusion

This is a framework and set of rules for using a Knowledge Repository Model for Intangible Cultural Heritage to archive Malay intangible cultural heritage in Malaysia. Two types of intangible cultural assets need to be preserved. In order to preserve it for future generations in field format without changing its true core, the first step is to turn the intangible into tangible. Its second goal is to preserve the intangible in its current setting and transmit it orally to future generations [30, 38]. As part of this study method, the preservation of intangible cultural heritage entails turning it from intangible to tangible and then storing it digitally. New methods for creating a comprehensive standard model of a Malay's intangible cultural heritage knowledge were presented by this study. Thus, the intangible Malay cultural heritage will be preserved in a digital device that can be easily retrieved and consulted from any location with internet access, making it accessible to future generations and other researchers.

References

- [1] Canterle, D. R., da Silveira, T. L., Bayer, F. M., & Cintra, R. J. (2020). A Multiparametric Class of Low-complexity Transforms for Image and Video Coding. *Signal Processing*, 176, 107685.
- [2] Chen, F., Zhang, J., Zheng, M., Wu, J., & Ling, N. (2021). Long-Term Rate Control for Concurrent Multipath Real-Time Video Transmission in Heterogeneous Wireless Networks. *Journal of Visual Communication and Image Representation*, 102999.
- [3] Esakki, G., Panayides, A., Teeparthi, S., & Pattichis, M. (2020, August). A comparative performance evaluation of VP9, x265, SVT-AV1, VVC codecs are leveraging the VMAF perceptual quality metric. In *Applications of Digital Image Processing XLIII* (Vol. 11510, p. 1151010). International Society for Optics and Photonics.
- [4] Khursheed, S., Badruddin, N., Jyoti, V., & Hashmi, M. A. Fast Side Information Generation for High-Resolution Videos Distributed Video Coding Applications.
- [5] Guoxin Tan, T.H., Zheng Zhong, A knowledge Modeling Framework for Intangible Culture Heritage Based On Ontology. 2009 Second International Symposium on Knowledge Acquisition And Modeling, 2009.
- [6] Denis Pitzalis, P.S., Christian Lahanier, Matthew Addis, Richard Lowe, Shahbaz Hafeez, Paul Lewis, Kirk Martinez, mc schraefel, Ruven Pillay, Genevi`eve Aitken, Alistair Russell, and Daniel A. Smith, Semantically Exposing Existing Knowledge Repositories: a Case Study in Cultural Heritage. *Electronics and Visual Arts 2006 Florence*, Pitagora., Florence, Italy, 2006.
- [7] Chen Liyan, W.B., Chen Bing, Research On Digital Museum fot Intangible Cultural Heritage IEEE, 2009.